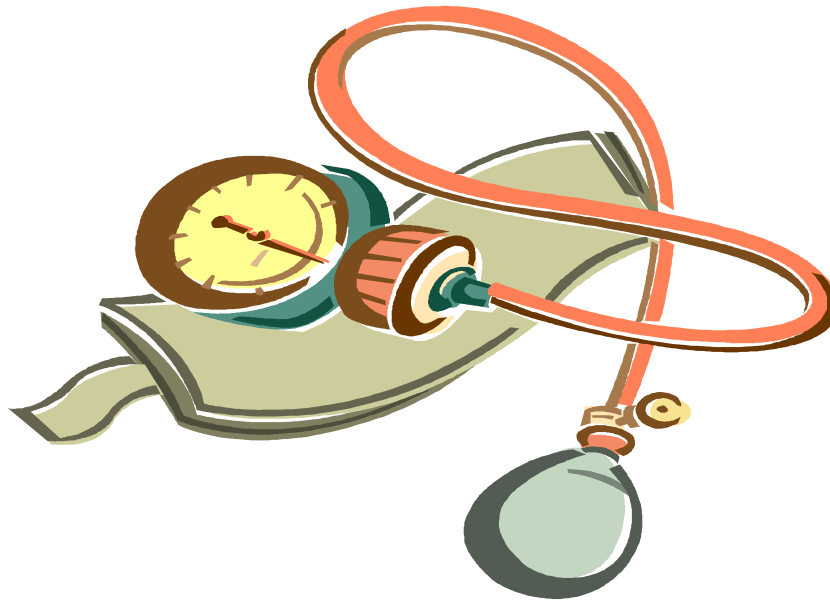


Pre-Hypertension & Hypertension Awareness



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What Are High Blood Pressure and Pre-hypertension?

Blood pressure is the force of blood against the walls of arteries. Blood pressure rises and falls throughout the day. When blood pressure stays elevated over time, it's called *high blood pressure*.

The medical term for high blood pressure is *hypertension*. High blood pressure is dangerous because it makes the heart work too hard and contributes to atherosclerosis (hardening of the arteries). It increases the risk of heart disease and stroke, which are the first- and third-leading causes of death among Americans. High blood pressure also can result in other conditions, such as congestive heart failure, kidney disease, and blindness.

A blood pressure level of 140/90 mmHg or higher is considered high. About two-thirds of people over age 65 have high blood pressure. If your blood pressure is between 120/80 mmHg and 139/89 mmHg, then you have *pre-hypertension*. This means that you don't have high blood pressure now but are likely to develop it in the future unless you adopt the healthy lifestyle changes. People who do not have high blood pressure at age 55 face a 90 percent chance of developing it during their lifetimes. So high blood pressure is a condition that *most people will have at some point in their lives*.

Both numbers in a blood pressure test are important, but for people who are age 50 or older, systolic pressure gives the most accurate diagnosis of high blood pressure. Systolic pressure is the top number in a blood pressure reading. It is high if it is 140 mmHg or above.

Category	Systolic (mmHg)		Diastolic (mmHg)	Result
Normal	Less than 120	and	less than 80	Great!
Pre-Hypertension	120-139	or	80-89	Your blood pressure could be a problem. Make lifestyle changes. If you also have diabetes, see your health care provider.
Hypertension	140 or higher	or	90 or higher	You have high blood pressure. Ask your health care provider how to control it.

Source: *The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure*; NIH Publication No. 03-5230, National High Blood Pressure Education Program, May 2003.

Risk Factors

Risk factors are conditions or behaviors that increase your chances of developing a disease. When you have more than one risk factor for heart disease, your risk of developing heart disease greatly multiplies. So if you have high blood pressure, you need to take action. Fortunately, you can control most heart disease risk factors.

Risk factors beyond your control

- Age (55 or older for men; 65 or older for women)
- Family history of early heart disease (having a father or brother diagnosed with heart disease before age 55 or having a mother or sister diagnosed before age 65)

Risk factors you can control

- High blood pressure
- Abnormal cholesterol
- Tobacco use
- Diabetes
- Overweight
- Physical inactivity

Prevention

Work with your health care provider

If you have high blood pressure, you and your health care provider need to work together as a team to reduce it. The two of you need to agree on your blood pressure goal. Together, you should come up with a plan and timetable for reaching your goal. Blood pressure is usually measured in millimeters of mercury (mmHg) and is recorded as two numbers—systolic pressure (as the heart beats) “over” diastolic pressure (as the heart relaxes between beats)—for example, 130/80 mmHg.

Monitor your blood pressure

Ask your health care provider to write down for you your blood pressure numbers and your blood pressure goal level. Monitoring your blood pressure at home between visits to your provider can be helpful. You also may want to bring a family member with you when you visit your provider. Having a family member who knows that you have high blood pressure and who understands what you need to do to lower your blood pressure often makes it easier to make the changes that will help you reach your goal.

Engage in lifestyle changes

Researchers concluded that six approaches have been shown to be effective in the prevention of hypertension. These are:

1) Performance of moderate physical activity

People who regularly perform physical activity have less heart disease and the protection is as great with walking as with more vigorous exercise. Blood pressure falls during aerobic exercise and remains lower for the remainder of the day. The overall blood pressure lowering effect is greater with a longer duration of exercise, but not with more intensive aerobic exercise.

2) Maintenance of normal body weight

In virtually every study of weight reduction, systemic blood pressure is reduced, even if the degree of weight loss is small - in general, the greater the weight loss, the greater the reduction in blood pressure.

3) Limitation of alcohol consumption

At a given time, large quantities of alcohol lower both blood pressure and arterial stiffness, but chronic excessive drinking of more than three portions per day raises blood pressure. In many populations, moderate consumption (1-2 drinks/day) of any type of alcohol-containing beverage has been associated with lesser risks for heart attack, heart failure, ischemic stroke, diabetes, and dementia. The greater protection reported with wine, red wine in particular, compared with other types of alcohol may reflect healthier lifestyle habits in those who drink wine.

4) Reduction of dietary sodium intake

Although sodium sensitivity varies between individuals, a moderate reduction in dietary sodium intake will help prevent and treat hypertension. A significant fall in blood pressure has almost always been noted in trials of dietary sodium reduction. Read food labels for sodium content. Avoiding processed foods with more than 400 mg sodium per portion is a helpful way to reduce dietary sodium intake.

5) Maintenance of adequate dietary potassium intake

In 33 randomized controlled trials of potassium supplementation, a significant antihypertensive effect has been seen, greater in African Americans and in the presence of higher dietary sodium intake. Increased dietary consumption of potassium has also been associated with a lower risk of stroke. The extra potassium in diets with more fresh fruits and vegetables may contribute to the reduction of blood pressure.

6) Consumption of a diet rich in fruits, vegetables, and low-fat dairy products and reduced in saturated and total fat

Research supports calcium, magnesium, and fiber as contributing to significant reductions in blood pressure. These nutrients can be consumed in low-fat dairy products and fruits and vegetables. Decreasing dietary fat intake improves cholesterol and overall risk of heart disease.

Blood Pressure Medication

If you have high blood pressure, changing lifestyle habits alone may not be enough to lower your blood pressure. If this is the case, you'll need to take blood pressure medication. Even if you need medication, you still must make the necessary lifestyle changes. Doing so will help your medication work better and may reduce the amount of medication you need. There are many drugs available to lower blood pressure. They work in various ways. ***Many people need to take two or more drugs to bring their blood pressure down to a healthy level.*** See the following table for a rundown on the main types of blood pressure drugs and how they work.

Drug Category	How They Work
Diuretics	These are sometimes called “water pills” because they work in the kidney and flush excess water and sodium from the body through urine.
Beta-blockers	These reduce nerve impulses to the heart and blood vessels. This makes the heart beat less often and with less force. Blood pressure drops, and the heart works less hard.
Angiotensin converting enzyme inhibitors	These prevent the formation of a hormone called angiotensin II, which normally causes blood vessels to narrow. The blood vessels relax, and pressure goes down.
Angiotensin antagonists	These shield blood vessels from angiotensin II. As a result, the blood vessels open wider, and pressure goes down.
Calcium channel blockers	These keep calcium from entering the muscle cells of the heart and blood vessels. Blood vessels relax, and pressure goes down.
Alpha-blockers	These reduce nerve impulses to blood vessels, allowing blood to pass more easily.
Alpha-beta-blockers	These work the same way as alpha-blockers but also slow the heartbeat, as beta-blockers do.
Nervous system inhibitors	These relax blood vessels by controlling nerve impulses.
Vasodilators	These directly open blood vessels by relaxing the muscle in the vessel walls.

When you start on a drug, work with your health care provider to get the right drug and dose level for you. If you have side effects, tell your health care provider so the drugs can be adjusted. If you're worried about cost, tell your health care provider or pharmacist—there may be a less expensive drug or a generic form that you can use instead.

It's important that you take your drugs as prescribed. That can prevent a heart attack, stroke, and congestive heart failure, which is a serious condition in which the heart cannot pump as much blood as the body needs.

It's easy to forget to take medicines. But just like putting your shoes on in the morning and brushing your teeth, taking your medicine can become part of your daily routine. See the following list for some tips that will help you remember to take your blood pressure drugs.

- Put a favorite picture of yourself or a loved one on the refrigerator with a note that says, “Remember to Take Your High Blood Pressure Medication.”
- Keep your high blood pressure drugs on the nightstand next to your side of the bed.
- Take your high blood pressure drugs right after you brush your teeth, and keep them with your toothbrush as a reminder.
- Put “sticky” notes in visible places to remind yourself to take your high blood pressure drugs. You can put notes on the refrigerator, on the bathroom mirror, or on the front door.

- Set up a buddy system with a friend who also is on daily medication and arrange to call each other every day with a reminder to “take your blood pressure drugs.”
- Ask your child or grandchild to call you every day with a quick reminder. It’s a great way to stay in touch, and little ones love to help the grown-ups.
- Place your drugs in a weekly pillbox, available at most pharmacies.
- If you have a personal computer, program a start-up reminder to take your high blood pressure drugs, or sign up with a free service that will send you a reminder e-mail every day.
- Remember to refill your prescription. Each time you pick up a refill, make a note on your calendar to order and pick up the next refill 1 week before the medication is due to run out.

References

National Heart, Blood, and Lung Institute (2003). Your guide to lowering blood pressure. NIH Publication No. 03-5232.

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; NIH Publication No. 03-5230, National High Blood Pressure Education Program, May 2003.

Kaplan, N.M. (2004). Lifestyle modifications for prevention and treatment of hypertension. Journal of Clinical Hypertension, 6(12), 716-719.

Resources

National Heart, Blood, and Lung Institute (NHLBI)

<http://rover.nhlbi.nih.gov/hbp/>

http://hin.nhlbi.nih.gov/nhbpep_kit/

American Heart Association

<http://www.americanheart.org/presenter.jhtml?identifier=2114>